REMARKS

In the Official Action mailed on **24 November 2008**, the Examiner reviewed claims 1-2, 4-11, 13-18, and 28-35. Examiner objected to claims 1-2, 4-11, 13-18, and 28-35 because of informalities. Examiner rejected claims 1-2, 4-11, 13-18, and 28-35 under 35 U.S.C. § 112. Examiner rejected claims 1-2, 4-7, 10-11, 13-16, and 28-35 under 35 U.S.C. § 103(a) based on Kwong (U.S. Patent No. 6,289,506, hereinafter "Kwong"), and Berry (U.S. Patent No. 6,662,358, hereinafter "Berry"). Examiner rejected claims 8 and 17 under 35 U.S.C. §103(a) based on Kwong, Berry, and Kilis (U.S. Patent No. 5,491,821, hereinafter "Kilis"). Examiner rejected claims 9, and 18 under 35 U.S.C. § 103(a) based on Kwong, Berry, and Evans et al. (U.S. Patent No. 5,805,899, hereinafter "Evans").

Rejections under 35 U.S.C. § 112

Claims 1-2, 4-11, 13-18, and 28-35 are rejected under 35 U.S.C. § 112. Applicant has amended the claims to delete the term "contextual information," and respectfully submits that this deletion overcomes the rejection.

Rejections under 35 U.S.C. § 103(a)

Claims 1-2, 4-7, 10-11, 13-16, and 28-35 are rejected under 35 U.S.C. § 103(a) as being anticipated by Kwong, and Berry. Applicant respectfully disagrees.

Kwong discloses optimizing Java performance by selecting a set of program functions in the Java application for native code compilation. These selected program functions are optimized, and then precompiled into native code. Kwong further discloses reverting from the precompiled native code, and selecting other program functions in the application for native compiling instead if the performance of the program is not adequate (see Kwong, Abstract).

Kwong's entire process is shown in FIG. 7 and described in the supporting specification. As can be seen in FIG. 7, Kwong's process involves:

1. Writing/Compiling a program,
2. Testing the program and creating a list of methods for optimization,
3. Determining if the performance of the program (as it then exists) is satisfactory:
    a. If so, the process **is complete**
    b. If not, selected methods are compiled and optimized while others are decompiled back into bytecodes, and the compiled methods are added to a DLL for the native methods, and
4. **Returning to step 2** until the performance of the program is satisfactory and the process is completed at step 3.

In other words, Kwong only describes a very basic optimization process by which determined program methods are precompiled into native code, tested for performance, and swapped out for different program methods until overall program performance meets a desired performance threshold. In this section, Kwong describes only determining and precompiling individual methods. Kwong nowhere describes either: (1) **creating a combined intermediate representation**, or (2) using the combined intermediate representation to **modify calls to native code methods by the application**.

In contrast, in the claimed embodiments, the intermediate representation for the application program and the intermediate representation for a selected native code method are integrated to form a single combined intermediate representation. This combined intermediate representation is then used to optimize calls to and from application to the native code method. FIG. 2 of the instant application shows the process in the claimed embodiments:

1. Select **a call to a native code method** to be optimized,
2. Setup a context for decompilation of native code method,
3. Decompile negative code method into intermediate representation,
4. Obtain intermediate representation of application that interacts with the native code method,

5. Integrate intermediate representation of native code method into intermediate representation of application, and
6. Generate native code for integrated intermediate representation, including **optimizing interactions between application and native code method**.

Applicant respectfully points out that additional information present in the combined intermediate representation (particularly over the intermediate representation of either the application or the native code method alone) is used for the optimization process. In these embodiments, using the additional information present in the combined intermediate representation to perform the optimization of calls to native code methods **results in an optimization with a reduced number of indirect calls and indirect references associated with the calls**, thereby reducing the overhead involved in processing the calls to native code methods by the platform-independent application (*see instant application, paragraphs [0005] and [0031]-[0032]*).

Kwong and Berry nowhere describe, either explicitly or implicitly, using additional information in a combined intermediate representation of the application and a selected native code method to optimize **calls to the native code method from the application** by reducing the number of indirect calls and indirect references associated with the calls. Thus, it is not possible to use the combined system of Kwong and Berry to reduce the overhead in calls to native code methods from a platform independent application by reducing indirect calls and indirect references associated with the calls.

Accordingly, Applicant has amended claims 1, 10, 28 and 32 to clarify that optimizing the interactions between the native code method and the application involves optimizing calls from the application to the native code method by using additional information from the integrated intermediate representation to reduce the number of indirect calls and indirect references

associated with the calls. These amendments find support in paragraphs [0031]-[0032] of the specification. No new matter has been added.

Hence, Applicant respectfully submits that independent claims 1, 10, 28, and 32 are in condition for allowance. Applicant also submits that claims 2-9, which depend upon claim 1, claims 11-18, which depend on claim 10, claims 29-31, which depend on claim 28, and claims 33-35, which depend on claim 32, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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